

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER :					

Work Order ID 158555***158555***

Page 2

Monday, March 27, 2017 10:25:01 AM

Item ID: D412-702-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration
Start Date: 4/3/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/24/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC4- 100% Inspect kits for completeness Memo	0.00 0.00					DAS 28 9-89		<u>MAY 27 2017</u>
130 *130* Packaging Packaging	Packaging Memo Identify and pack for shipping as per PPP D412-702-011 Location: <u>F9029</u> PPP Rev: _____	0.00 0.00					DAS 28 9-89		<u>MAY 17 2017</u>
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00					DAS 21 9-89		<u>MAY 18 2017</u>
							DAS 21 9-89		<u>MAY 18 2017</u>

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
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								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____			

Picklist Print

Monday, March 27, 2017 10:25:00 AM

Page 1

Work Order ID: 158555

158555

Parent Item: D412-702-011

D412-702-011

Parent Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration

Start Date: 4/3/2017

Required Date: 4/24/2017

Start Qty: 1.00

Required Qty: 1.00

Comments: IPPRev:A03.10.17New issueKJ/RF
IPP Rev:B06.04.03As per DSI9324 JLM
IPP rev C 06.12.14 per ecn871 ec
IPP Rev:D 07-03-14 As per DSI9351 JLM
IPP Rev:E 07-07-28 As per Rev E JLM Verified By:ec IPP REV:F
17.03.13 AS PER DSI9766-011 DD VERF:JFS

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN4-13A		Purchased	No			110	Each	278.0000	4	4			
---------	--	-----------	----	--	--	-----	------	----------	---	---	--	--	--

AN4-13A

Bolt

**

Location

Loc Qty

Loc Code

FG	20	
122808	20	
GA	76	
m134634	19	
m135470	57	
ST344	182	
m136787	132	
m137073	50	

DAS
28
9-89

DAS
6
9-89

MAR 28 2017

DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
58								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	
OTHER :									

Picklist Print

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Page 2

Work Order ID: 158555

158555

Parent Item: D412-702-011

D412-702-011

Parent Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration

Start Date: 4/3/2017

Required Date: 4/24/2017

Start Qty: 1.00

Required Qty: 1.00

AN4-20A

Purchased

No

110

Each

213.0000

8

8

AN4-20A

Bolt

**

Location

Loc Qty

Loc Code

GA

6

m116419

6

over003

140

m136586

100

m136983

40

ST343

37

m135966

36

m136148

1

ST343

30

m136665

30

AN4-5A

Purchased

No

110

Each

89.0000

4

4

AN4-5A

BOLT

**

Location

Loc Qty

Loc Code

ST345

89

m136787

89

D3195-041

Manufactured

No

110

Each

0.0000

2

2

D3195-041

Bracket

**

D3195-043

Manufactured

No

110

Each

4.0000

2

2

D3195-043

Bracket

**

Location

Loc Qty

Loc Code

ST021

4

152844

4

Monday, March 27, 2017 10:25:00 AM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐						
Date : _____		Step #: _____			QTY Effective : _____			MRB (QSI042) Approval _____		
Description Work Order Deviation					Disposition					
										Completed By _____
										Lead hand / Supervisor Approval Verification _____
										QC / QA Coordinator Approval _____
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐								
OTHER : _____										

Picklist Print

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Work Order ID: 158555

158555

Parent Item: D412-702-011

D412-702-011

Parent Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration

Start Date: 4/3/2017

Required Date: 4/24/2017

Start Qty: 1.00

Required Qty: 1.00

D3196-1

Manufactured No

110

Each

3.0000

1

1

D3196-1

**

Bar

DAS
28
9-89

Location

Loc Qty

Loc Code

ST256

3

148466

3

D3196-3

Manufactured No

110

Each

1.0000

1

1

D3196-3

**

Bar

DAS
28
9-89

Location

Loc Qty

Loc Code

ST256

1

150581

1

D3196-4

Manufactured No

110

Each

5.0000

1

1

D3196-4

**

Bar

DAS
28
9-89

Location

Loc Qty

Loc Code

ST256

5

155354

5

D3197-041

Manufactured No

110

Each

1.0000

2

2

D3197-041

**

Bar

DAS
28
9-89

Location

Loc Qty

Loc Code

ST256

1

152733

1

DAS
28
9-89

MAR 28 2017

DAS
27
9-89

APR 19 2017

DAS
28
9-89

DAS
27
9-89

DAS
28
9-89

MAR 28 2017

DAS
27
9-89

DAS
28
9-89

MAY 1 2017

DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
				Completed By					
				Lead hand / Supervisor Approval Verification					
				QC / QA Coordinator Approval					

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

Picklist Print

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Page 4

Work Order ID: 158555

158555

Parent Item: D412-702-011

D412-702-011

Parent Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration

Start Date: 4/3/2017

Required Date: 4/24/2017

Start Qty: 1.00

Required Qty: 1.00

D3198-1 Manufactured No

110 Each 9.0000 4 4

D3198-1

Fitting

**

3 x B 158845
Q

DAS 27 9-89
MAR 28 2017

Location

Loc Qty

Loc Code

ST021

9

142843

1

150644

4

155539

4

DAS 28 9-89

D3215-041 Manufactured No

110 Each 4.0000 18 18

D3215-041

Harness Assembly

**

14 x 158388

DAS 27 9-89
MAR 28 2017

Location

Loc Qty

Loc Code

ST464

4

151154

4

DAS 28 9-89

D3215-043 Manufactured No

110 Each 6.0000 4 4

D3215-043

Harness Assembly

**

DAS 27 9-89
MAR 28 2017

Location

Loc Qty

Loc Code

ST464

6

144545

5

157881

1

DAS 28 9-89

D3268-1 Manufactured No

110 Each 9.0000 2 2

D3268-1

Placard

**

158622 x3

DAS 27 9-89
MAR 28 2017

Location

Loc Qty

Loc Code

ST028

9

154442

3

157204

6

DAS 28 9-89

12/23/2017

3/7/2018

DQA: _____ Date: _____



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Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

Picklist Print

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Work Order ID: 158555

158555

Parent Item: D412-702-011

D412-702-011

Parent Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration

Start Date: 4/3/2017

Required Date: 4/24/2017

Start Qty: 1.00

Required Qty: 1.00

D3546-1

Manufactured No

110

Each

4.0000

2 2

D3546-1

Clip

**

DAS 27
6 9-89

MAR 28 2017

DAS 28
9-89

Location

Loc Qty

Loc Code

ST039

4

153028

4

D3551-11

Manufactured No

110

Each

21.0000

13 13

D3551-11

Hook And Loop Tie

**

MAR 28 2017

DAS 28
9-89

Location

Loc Qty

Loc Code

ST416

21

157164

6

157199

15

D412-702-069

Manufactured No

110

Each

3.0000

1 1

D412-702-069

Grommet

**

MAR 28 2017

DAS 28
9-89

Location

Loc Qty

Loc Code

ST370a

3

155649

3

D5474-1

Manufactured No

110

Each

24.0000

6 6

D5474-1

Spacer

**

MAR 28 2017

68-6
82
SVD

Location

Loc Qty

Loc Code

st175

24

158307 A

24

D5475-1

Manufactured No

110

Each

0.0000

1 1

D5475-1

Anti Chafing Shield

**

DAS 27
6 9-89
B 158309
SP 17-4-5

DAS 28
9-89

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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval	
Description Work Order Deviation				Disposition				Completed By	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER :									

Picklist Print

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Work Order ID: 158555

158555

Parent Item: D412-702-011

D412-702-011

Parent Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration

Start Date: 4/3/2017

Required Date: 4/24/2017

Start Qty: 1.00

Required Qty: 1.00

D5475-2 Manufactured No 110 Each 0.0000

D5475-2

Anti Chafing Shield

MS21042L4

MS21042L4

Nut

DAS
28
9-89

Purchased No

110 Each 1,309.000

1
**

B 158310 SP. 27
1746 9-89

12
**

12

MAR 28 2017

DAS
6
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

FP001

10

m133363

10

GA

172

m135058

172

OVER007

500

m136986

500

ST303

627

m136450

500

m136838

127

MS24694-S152 Purchased No 110 Each 33.0000

MS24694-S152

Screw

DAS
28
9-89

Location

Loc Qty

Loc Code

ST282

33

m136182

8

m137054

25

MS24694-S154 Purchased No 110 Each 46.0000

MS24694-S154

Screw

DAS
28
9-89

Location

Loc Qty

Loc Code

ST282

46

m135058

6

m136986

40

8
**

12

MAR 28 2017

DAS
6
9-89

DAS
27
9-89

8
**

8

MAR 28 2017

DAS
6
9-89

DAS
27
9-89

Monday, March 27, 2017 10:25:00 AM

Shop Packet Print

Page 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition			Completed By																		
							Lead hand / Supervisor Approval Verification																		
							QC / QA Coordinator Approval																		
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____																		

Picklist Print

Monday, March 27, 2017 10:25:00 AM

Page 7

Work Order ID: 158555

158555

Parent Item: D412-702-011

D412-702-011

Parent Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration

Start Date: 4/3/2017

Required Date: 4/24/2017

Start Qty: 1.00

Required Qty: 1.00

MS24694-S162

Purchased

No

110

Each

0.0000

6

6

MS24694-S162

Screw

NAS1149D0463J

Purchased

No

110

Each

1,979.000

20

20

NAS1149D0463J

Washer

**

**

137318

APR 14 2017

MAR 28 2017

DAS 6 9-89

DAS 6 9-89

DAS 27 9-89

DAS 27 9-89

DAS 28 9-89

Location

Loc Qty

Loc Code

GA

67

M134508

13

M135056

54

ST263

1912

M136838

912

M136983

1000

20

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
58 DVC								Lead hand / Supervisor Approval Verification																	
								QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____																		

6.0 PARTS LISTS

QTY -011	QTY -013	QTY -015	QTY -017	QTY -019	Part Number	Description
X					D412-702-011	Dart 13-Man Shoulder Harness Kit
	X				D412-702-013	Dart 5-Man Forward Facing Shoulder Harness Kit
		X			D412-702-015	Dart 4-Man Aft Facing Shoulder Harness Kit
			X		D412-702-017	Dart 4-Man Side Facing Shoulder Harness Kit
				X	D412-702-019	Dart 1-Man Forward Facing Shoulder Harness Kit
1	1		1	1	D412-702-069	GROMMET KIT
2	2				D3195-041	BRACKET
2	2				D3195-043	BRACKET
1	1			1	D3196-1	BAR
1			1		D3196-3	BAR
1			1		D3196-4	BAR
2	2				D3197-041	BAR
4		4			D3198-1	FITTING
18	10		8	2	D3215-041	HARNESS ASSEMBLY
4		4			D3215-043	HARNESS ASSEMBLY
2	2				D3268-1	PLACARD
13	5	4	4	1	D3551-11	HOOK AND LOOP TIE
2	2				D3546-1	CLIP
4		4			AN4-5A	BOLT
4	4				AN4-13A	BOLT
8		8			AN4-20A	BOLT
20		20			AN960JD416	WASHER (OR NAS1149D0463J)
12		12			MS21042L4	NUT (OR MS21042-4)
8	2		6	2	MS24694-S152	SCREW
8	2		6	2	MS24694-S154	SCREW

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Revision: A
Date: 10.12.01

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-702-1 REV. A OR LATER
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D412-702 REV. 4 OR LATER

REF TCCA STC: SH04-7
REF FAA STC: SR01997NY
REF EASA STC: EASA.IM.R.S.00710

1.0 PURPOSE

The purpose of this Dart Service Instruction (DSI) is to amend section 3.4 of Installation Instructions IIN-D412-702-1 to include the installation of the D5474-1 Spacers and D5475-1/-2 Anti Chafing Shields between the D3196-3/-4 Bars and the aircraft bulkhead. This will allow the D412-702-011/-017/-021/-027 Shoulder Harness Kits to be properly fit in relation to the airframe and to prevent the shoulder harnesses from chafing against protruding fasteners on some airframes.

2.0 INSTALLATION AND MAINTENANCE

IIN-D412-702-1 section 3.4 is amended as follows:

1. Carry out installation instructions IIN-D412-702-1 Rev. A or later up to section 3.4.3.
2. Install the D5475-3/-4 Anti Chafing Shield and Qty (3) D5474-1 Spacers between each D3196-3/-4 Bar and the aircraft structure. Fasten over the OEM thermal blanket to existing aircraft structure using MS24694-S162 Screws. It is acceptable to substitute with longer or shorter MS24694 Screws if required to ensure threads are in in safety. See Figure 1.
3. The D3196-3/-4 Bars and D5475-1/-2 Anti Chafing Shields must be oriented properly to ensure that the holes will align with existing aircraft holes. To pass through the thermal blanket, either cut holes and reinforce the blanket or install D3619-2 Grommets from the D412-702-069 Grommet Kit per Section 4.0 of IIN-D412-702-1. Torque the fasteners per Table 1 of IIN-D412-702-1.
4. It is acceptable to trim the D5474-1 Spacer(s) to provide a better fit.
5. Continue with the installation instructions IIN-D412-702-1 Rev. A at section 3.4.5. Ensure that the harnesses pass between the D3196-3/-4 Bars and the D5475-1/-2 Anti Chafing Shields.
6. Update the aircraft weight and balance per section 3.0 of this service instruction.
7. Update the aircraft logbook to indicate installation of DSI 9766-011 Shoulder Harness Spacer Kit.

3.0 WEIGHT AND BALANCE

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
DSI 9766-011 Shoulder Harness Spacer Kit	0.78 lb 0.35 kg	0 in 0 m	0 in lb 0 m kg	147 in 3.73 m	114.66 in lb 1.31 m kg

4.0 PARTS LISTS

QTY -011	PART NUMBER	DESCRIPTION
X	DSI 9766-011	SHOULDER HARNESS SPACER KIT
6	D5474-1	SPACER
1	D5475-1	ANTI CHAFING SHIELD
1	D5475-2	ANTI CHAFING SHIELD
6	MS24694-S162	SCREW

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: 
D. SHEPHERD (DE # 02)

DATE: 16.12.01
CERT. NO.: SH04-7
ISSUE NO.: 3

APPROVED

A	NEW ISSUE (PAR16-565)	JMH	16.12.01
REV.	DESCRIPTION	BY	DATE
DESIGN	JMH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JMH		
CHECKED	ML	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9766	SHEET 1 OF 2
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	SHOULDER HARNESS SPACER KIT	NTS
DATE	16.12.01	COPYRIGHT © 2016 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Work Order ID 158555

Monday, March 27, 2017 12:36:28 PM

158555

Page 1

Item ID: D412-702-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Shoulder Harness Loops Over Existing Lap Belts, 13 Man Configuration
Start Date: 4/3/2017 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 4/13/2017 Req'd Qty: 1.00 ***1*** Customer:
Reference: SCHEDULED/C

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
DSI9766	A								
IIN-D412-702-1	A								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPPD412-702-011 CHG003								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									

DAS
21
9-89

MAR 27 2017



DART AEROSPACE LTD.
1270 Aberdeen Street
Hawkesbury, ON, K6A 1K7
CANADA

Tel: 1 613 632 5200
Fax: 1 613 632 5246

e-mail: heli@dartaero.com
<http://www.dartaero.com>

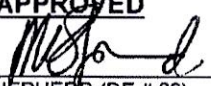
REFERENCE ONLY

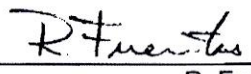
INSTALLATION INSTRUCTIONS

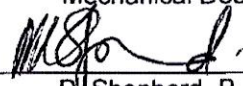
IIN-D412-702-1

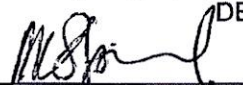
Shoulder Harness Kits

BELL 205/212/214/412 MODELS

CANADA DEPARTMENT OF TRANSPORT AIRCRAFT CERTIFICATION BRANCH DAO # 01-O-01	
APPROVED	
BY:	
D. SHEPHERD (DE # 02)	
DATE:	10.12.01
CERT. NO.:	SH04-7
ISSUE NO.:	3

Prepared By: 
R. Fuentes
Mechanical Designer

Checked By: 
D. Shepherd, P. Eng.
DE #02

Released By: 
D. Shepherd, P. Eng.
DE #02

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Revision: **A**
Date: 10.12.01